ST JOHN'S CE PRIMARY SCHOOL

Yearly Overview

Year 1/2 - Odd

Autumn	Spring **British Science Week**	Summer	
Year 1 - Everyday Materials ● The children will learn: ● ● all about everyday materials including wood, plastic, metal, water and rock. ● to identify and name everyday materials. ● to carry out a simple investigation to decide which materials are suitable for an umbrella. ● to sort objects by their properties. ● to label. ● engage in discussions. ● to ask and find the answers to their questions.	**Year 1 - Animals including Humans** The children will learn: ● about the groups of animals: mammals, fish, birds, reptiles and amphibians. ● to classify and identify which group an animal belongs to by their features. ● about the different diets animals eat. ● the parts of the human body. ● about the five senses through investigation. ● to group animals according to their own criteria.	**Year 1 Seasonal Change Spring and Summer** The children will learn: ● about spring and summer. ● to use a class weather station where they will observe, measure and record weather. ● to make comparisons between two seasons, as well as all four seasons. ● how to observe the changes across seasons. ● to explore the changes through nature and wildlife. ● observational skills. ● discussion skills. ● to collect, record and interpret simple data.	**Year 1 Plants** The children will learn: ● to name the basic parts of a plant, including seeds. ● to plant their own seeds and make observations of how they grow. ● to identify, name and describe a variety of garden and wild plants. ● to identify, name and describe a variety of evergreen and deciduous trees. ● to identify, compare and classify plants. ●

Year 1/2 - Even

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<tr><th colspan="2">Autumn</th><th colspan="2">Spring
<u>British Science Week</u></th><th>Summer</th></tr>
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<td>Year 2 Everyday Materials

The children will learn:

● Uses of everyday materials including metal, glass, brick, paper and cardboard.
● to compare the sustainability of different every day materials for different purposes.
● to explore how objects made of every day materials can change shape.
● how the recycling process is able to reuse some everyday materials numerous times.
● about new discoveries.
● about John McAdam.
● discussion skills.
● to take part in a debate.
● about sequencing.
● uses of everyday materials in the local area by partaking in a local walk.</td>
<td>Year 1 Seasonal change Autumn and Winter

The children will learn:

● about autumn and winter.
● what the word weather means.
● how different types of weather can be measured.
● to use a class weather station where they will observe, measure and record weather.
● about the changes across the seasons.
● how to observe the changes across seasons.
● to explore the changes through nature and wildlife.
● observational skills.
● discussion skills.
● to collect, record and interpret simple data.</td>
<td>Year 2 Animals Including Humans

The children will learn:

● about young animals and comparing them to their adults.
● how animals change as they grow up.
● about life circles of common animals and humans.
● in detail at how humans change as they grow older.
● about the three basic needs of animals for survival (water, food and air)
● apply knowledge alongside secondary sources.
● how to look after pets.
● about healthy lifestyles.
● about the importance of exercise, healthy eating and hygiene.
● to develop their scientific skills.
● to investigate the impact of exercise.
● investigate how handwashing is essential for personal hygiene.</td>
<td>Year 2 Living Things and Habitats

The children will learn:

● about a variety of habitats and the plants and animals that live there.
● to tell the difference between things that are living, dead and things that have never been alive.
● to observe a local habitat and the creatures that live there.
● investigate conditions in local microhabitats and how they affect the minibeasts found within them.
● to research a range of global habitats.
● how living things are suited to their environment.
● the start of dependency between plants and animal species.</td>
<td>Year 2 Plants

The children will learn:

● what plants need to stay healthy.
● to carry out their own investigations into what plants need to grow well.
● to closely observe the inside of a seed.
● about the life cycle of a plant.
● how plants look when they don't get the things they need.
● how plants have adapted to live in different environments around the world.</td>
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Year 3/4 - Odd

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<u>British Science Week</u></th><th colspan="2">Summer</th></tr>
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This follows on from Animals including Humans in year 1/2.

Year 4 Animals including humans

The children will learn:

- about the digestive system in humans and animals.
- the functions of teeth.
- more about carnivores, carnivores and omnivores in the context of teeth, digestion and the food chain.
- extend their knowledge of understanding the food chains to more complex chains and food webs.

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Electricity
(Y4)

The children will learn:

- what electricity is
- how electricity was discovered
- identify which appliances use electricity in their homes
- how to keep themselves safe
- to construct circuits
- to start to make pictorial circuits
- to conduct an investigation into how easily different types of switches can break and reconnect a circuit.

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Forces and Magnets
(Y3)

The children will learn:

- all about forces, friction and magnetic attraction.
- about forces in the context of pushing and pulling
- to identify different actions as pushes or pulls
- to work scientifically
- to work collaboratively to investigate friction by moving a toy car over different surfaces
- to identify magnetic materials
- to conduct an investigation into the strength of different types of magnet.
- to explore the way magnetic poles can attract and repel
- to make their own compass and find hidden items.
- to use their understanding to create their own magnetic game
- to develop their scientific enquiry skills
- to make observations, predictions and conclusions.

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Living things and Habitats
(Y4)

The children will learn:

- to explore a variety of ways to identify, sort, group and classify living things.
- how animals are split into vertebrates and invertebrates.
- to begin to consider the differences between living things in these classifications.
- to use and create classification keys to group, identify and name living things from local habitats and beyond.
- that environments are subject to human-made and natural changes
- that these changes can have a significant impact on living things.
- to work scientifically
- to gather, record and present information in different ways.

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Year 3/4- Even

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<u>British Science Week</u></th><th colspan="2">Summer</th></tr>
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<td>Light
(Y3)

The children will learn:
about light, reflections and shadows.
different sources of light, and that we need light to see.
to work scientifically and collaboratively to investigate reflective materials.
to design a new book bag.
about reflective surfaces.
that the suns light can be dangerous.
to create an advert for a pair of sunglasses or a hat that they have designed.
to test which objects are opaque in an investigation to design the most effective curtains.
how shadows change when the distance between the light and source changes.</td>
<td>Sound
(Y4)

The children will learn:
how vibrations cause sounds.
how sound travels.
how sound can change pitch and loudness.
how sounds are made, carrying out demonstrations of vibrations.
to complete a sound survey of our school.
to create a human model of the way particles pass sound vibrations on.
create a documentary explaining how sound travels.
to explore pitch.
to use their understanding of how high and low sounds are made to create their own set of pan pipes.
to create a string telephone to investigate how sound changes over distance through different materials.
work scientifically to investigate the best materials for soundproofing.</td>
<td>Rocks
(Y3)

The children will learn:
to discover the different types of rocks and how they are formed.
to compare and group rocks based on appearance and simple properties.
how fossils are formed.
about the contribution of Mary Anning to the field of palaeontology.
how soil is formed.
to investigate the permeability of different types of soil.</td>
<td>States of Matter
(Y4)

The children will learn:
the difference between solids, liquids and gases.
to classify objects and identify their properties.
to work scientifically and collaboratively to investigate the weight of gas.
the ideal temperature to melt chocolate.
to explore in-depth, how water changes state - exploring melting, freezing condensing and evaporation.
about the water cycle.
to create a mini water world and interactive water wheel to represent different stages of the cycle.</td>
<td>This follows on from Animals including Humans in year 1/2.

Animals including humans
(Y3)

The children will learn:
the digestive system in humans and animals and the functions of teeth.
more about carnivores, herbivores and omnivores.
more about the food chain.
to extend their understanding of food chains to more complex chains and webs.</td>
<td>This follows on from Plants in year 1/2.

Plants
(Y3)

The children will learn:
the different parts of plants and the jobs they do.
to work scientifically and collaboratively to investigate what plants need to grow well.
to predict what will happen in an investigation looking at the transportation of water within plants.
to identify the parts of a flower.
the different stages of the life cycle of a flowering plant.</td>
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• to develop their scientific enquiry skills. • to make observations. • to make predictions and come to a conclusion.	• to design and create their own musical instrument that will play high, low, loud and quiet sounds.				

Year 5/6 - Odd

Autumn		Spring **British Science Week**		Summer	
This follows on from Electricity in year 3/4. **Electricity** **(Y6)** The children will learn: • to represent circuits using symbols in a diagram • to develop their understanding of what electricity is and how to measure it. • to conduct their own investigations. • to find out about Steve Jobs from apple.	**This follows on from Light in year 3/4.** **Light** **(Y6)** The children will learn: • about light, how we see, shadows, reflection and refraction. • how light travels and how this enables us to see objects. • to make a functioning periscope • about mirrors, the angles of reflection and incidence. • to work scientifically and collaboratively. • to investigate refraction • to carry out experiments into the effects of bending light. • to predict what will happen in an	**This follows on from Animals including Humans in year 3/4.** **Animals including Humans** **(Y5)** The children will learn: • about the changes that human beings experience as they develop into old age. • about the life cycle of a human being. • to investigate the development of babies. • compare the gestation period of humans and other animals. • about the changes experienced in puberty and why these occur. • about the changes to the body as humans get older.	**This follows on from Animals and Humans in year ¾ and the previous term in year 5/6.** **Animals including Humans** **(Y6)** The children will learn: • to build on their knowledge and understanding of different systems within the body. • to research the parts and functions of the circulatory system. • about how nutrients are transported around the human body. • about how a healthy lifestyle supports the body to function.	**This follows on from States of Matter in year 3/4.** **Properties and Changes of Materials** **(Y5)** The children will learn: • about different materials, their uses and properties. • about dissolving, separating mixtures and irreversible changes. • to classify and sort objects according to their properties. • to explore the properties of materials to find the most suitable material for different purposes. • to work scientifically and collaboratively to investigate the best	**STEM**

	investigation into the visible spectrum. ● to explore how light creates the colours we see, designing coded messages. ● about Alhazen and his theory of light and colour. ● to perform a shadow puppet play about Alhazen's ideas.	● to compare the life expectancy of different animals. This unit focuses on the changes that human beings experience as they develop to old age. It tackles some sensitive subjects including puberty and death. As such, it is advisable to consult your school sex and relationships education policy prior to teaching this unit.	● how different types of drugs affect the body.	thermal insulator to make a lunch box. ● to make predictions and form conclusions. ● to find the best electrical conductor by making flood lights brighter. ● to explore dissolving and identifying the different variables in their own investigations. ● about different ways to separate mixtures of materials. ● to use filtering, sieving and evaporating. ● about irreversible changes. ● to investigate creating new materials using casein plastic and carbon dioxide.	

Year 5/6 - Even

Autumn	Spring	Summer
	British Science Week	

Earth and Space **(Y5)** The children will learn: ● a basic overview of the earth and its place in our Solar System.	**This follows on from Forces and Magnets in year 3/4.** **Forces** **(Y5)** The children will learn: ● about different types of forces such as gravity, friction, water resistance and air resistance. ● about the use of mechanisms such as levers, gears and pulleys. ● to identify forces ● to find out about Isaac Newton and his discoveries about gravity, completing comprehension about his life and work. ● to look for patterns and links between the mass and weight of objects. ● use newton metres to measure the force of gravity. ● to investigate air and water resistance. ● to participate in challenges to design the best parachute and boat. ● to explore friction, developing their own brake pad for a tricycle or scooter. ● to discuss how variables other than the one being tested can be kept the same to make the test fair. ● about different mechanisms including, levers, gears and pulleys. ● to design their own marvellous machine.	**This follows on from Rocks, Animals including Humans and Living things and their Habitats in year 3/4.** **Evolution and Inheritance** **(Y6)** The children will learn: ● about variation and adaptation. ● to explore how both Charles Darwin and Alfred Wallace separately developed their theories of evolution. ● to examine the scientific evidence from plants and animals that has been gathered to support the theory of evolution.	**This follows on from Plants in year 3/4.** **Living Things and Habitats (Reproduction in Plants/Life Cycles)** **(Y5)** The children will learn: ● about the process of reproduction. ● about the life cycles of plants, mammals, amphibians, insects and birds. ● about reproduction in different plants. ● about pollination and asexual reproduction. ● to take cuttings from plants, creating clones of the parent plant. ● about different types of mammals and their different life cycles. ● to make life cycle wheels to present their learning. ● about Jane Goodall and her work with the now-endangered chimpanzees in Africa. ● about metamorphosis in insects and amphibians, comparing their life cycle. ● about the life cycles of birds and will star in their own wildlife documentary comparing life cycles of different living things.	**This follows on from Living Things and Habitats in year 3/4.** **Living Things and Habitats (Classification)** **(Y6)** The children will learn: ● about the classification of living things, including microorganisms. ● to build on prior knowledge to sort animals into groups based on similarities and differences. ● to extend their knowledge by finding out about the standard system of classification, first developed by Carl Linnaeus. ● to find an animal and research its classification. ● to design their own curious creature and classify it based on characteristics. ● about microorganisms, and conduct an investigation into the growth of mould on bread. ● to use play doh to create a new single celled microorganism and explain how its classified and why. ● to put all their skills into practice by creating a field guide to the living things in their local area, showing how and why each one is classified.